IN THE UNITED STATES DISTRICT COURT FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

DENTSPLY INTERNATIONAL INC. : CIVIL ACTION NO. 1:04-CV-0348

and DENTSPLY RESEARCH & :

DEVELOPMENT CORP., : (Judge Conner)

:

Plaintiffs

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HU-FRIEDY MFG. CO., INC.,

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Defendant :

MEMORANDUM

Presently before the court for judgment is the counterclaim of defendant,
Hu-Friedy Manufacturing Company, Inc. ("Hu-Friedy"), against plaintiffs,
Dentsply International Inc. and Dentsply Research and Development Corp.

(collectively "Dentsply"), to declare a patent held by Dentsply invalid as "obvious" in light of "prior art." The challenged patent, U.S. Patent No. 6,494,714 (issued Dec.
17, 2002) ("the Dentsply Patent"), describes a method of making a "tip" that, when attached to a "connecting body" and a source device, vibrates and expels a small stream of liquid to facilitate dental cleaning. Hu-Friedy manufactures a similar product.¹ The parties disagree over whether the patented design is obvious in view

¹ The court held that the Hu-Friedy design did not infringe on the Dentsply patent in a prior memorandum and order (Doc. 159), familiarity with which is presumed. The entry of judgment on the claim of patent infringement does not divest this court of jurisdiction over the counterclaim for a declaration of invalidity. See, e.g., Cardinal Chem. Co. v. Morton Int'l, Inc., 508 U.S. 83, 89-103 (1993) (stating that finding of non-infringement does not *ex proprio vigore* divest court of jurisdiction over counterclaim for declaration of invalidity); see also 28 U.S.C. § 2201 (authorizing district court to entertain declaratory judgment action).

of the teachings of three prior patents: U.S. Patent No. 5,749,727 (issued to Huy-Can Dao et al., May 12, 1998) ("the Dao patent"), for making a "vibrating tip for contacting tooth surfaces"; U.S. Patent No. 4,128,928 (issued to L.D. Shotts, et al., Dec. 12, 1978) ("the Shotts patent"), for forming an "airfoil" with a "curved trailing edge cooling slot" for use in turbo machinery; and U.S. Patent No. 2,119,448 (issued to Henry D. Stecher, May 31, 1938) ("the Stecher patent"), for producing a "fitting[]... for use in hydraulic brake systems."

A bench trial was held in May 2005, during which the parties presented substantial documentation and testimony relating to the patents at issue. The counterclaim is now ripe for judgment under Federal Rule of Civil Procedure 52. Based on the findings that follow, the court concludes that the Dentsply patent is not invalid as obvious in light of prior art. Accordingly, judgment on the counterclaim will be entered in favor of Dentsply.²

I. <u>Findings of Facts</u>

1. The Dentsply patent claims a method of making a "tip" for use in an "ultrasonic insert," a device employed in the cleaning of teeth. (Doc. 125 at 12-13, 18-19; Doc. 129, Ex. P-1; Doc. 130, Exs. D47-L, D47-M, D54-A, D54-B; Doc. 149 \P 2, 6-7, 48; Doc. 150 \P 8; Doc. 154 \P 2, 6-7, 48; Doc. 157 \P 8).

² All counsel of record are once again commended for their professionalism and thoroughness in presenting the factual and legal issues in this case both at trial and in their submissions to the court. <u>See also supra</u> note 1.

- 2. During use, an ultrasonic insert is connected to a handpiece and an energy source device that, when activated, causes a "magnetostrictive element" within the insert to vibrate at ultrasonic frequency; the vibrations are carried through the "connecting body" of the insert to the "tip" of the insert, the end of which may then be applied to the surface of a tooth to remove plaque and calculus above and below the gum line. (Doc. 121 at 82-92; Doc. 125 at 12-13, 72-74; Doc. 126 at 92-94; Doc. 129, Tipton Dep. at 150; Doc. 149 ¶¶ 13-14, 16, 32; Doc. 150 ¶¶ 4-6; Doc. 154 ¶¶ 13-14, 16, 32; Doc. 157 ¶¶ 4-6).
- 3. The field of endeavor of the Dentsply patent is the design and manufacture of transducer activated tool tips, including the method of making an insert for an ultrasonically activated subgingival tooth cleaning tool. (Doc. 127 at 39; Doc. 129, Ex. P-1; Doc. 129, Ex. P-4 §§ 21, 24; Doc. 130, Ex. D-58 § 22; Doc. 130, Ex. D-66).
- 4. A person of ordinary skill in the art relating to the Dentsply patent would have at least a bachelor's degree in engineering and experience in materials science and manufacturing. (Doc. 122 at 100-01; Doc. 129, Ex. P-4 §§ 7-8, 35; Doc. 130, Ex. D-57 § 9; Doc. 130, Ex. D-58 § 10; Doc. 130, Copeland Dep. at 4-7; Doc. 149 ¶ 176; Doc. 150 ¶ 214; Doc. 154 ¶ 176; Doc. 157 ¶ 214).
- 5. The Dentsply patent claims a method of making a "tip," consisting of an elongated metal shaft with a tapered end and an internal water delivery system that may be attached to the "connecting body" to permit the transmission of fluid

and ultrasonic vibrations from the "magnetostrictive element." (Doc. 59 at 5-6; Doc. 129, Ex. P-1; see also Doc. 121 at 97; Doc. 125 at 73; Doc. 149 ¶ 15; Doc. 154 ¶ 15).

- 6. The method of making a "tip" claimed in the Dentsply patent involves bending the shaft at a mid-point, drilling a fluid passageway through the shaft to form a fluid-inlet orifice at the non-tapered end and a fluid-outlet orifice at the bend, and bending the shaft a second time at the mid-point to form a bend at an opposing angle from the centerline. (Doc. 129, Ex. P-1; see also Doc. 125 at 73).
- 7. The method of making a "tip" claimed in the Dentsply patent, involving the bending of the shaft before drilling the fluid passageway, was developed in order to manufacture a "tip" with increased strength and a reduced probability of breakage, compared to a method of making a "tip" that does not involve a "pre-bend" of the shaft before drilling the fluid passageway. (Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 80-84; see Doc. 149 ¶ 180; Doc. 150 ¶¶ 217-220; Doc. 154 ¶ 180; Doc. 157 ¶¶ 217-220).
- 8. The method of making a "tip" claimed in the Dentsply patent, involving the bending of the shaft before drilling the fluid passageway, satisfied a long-felt need, as expressed in consumer complaints over breakage, and resulted in significant commercial success for Dentsply. (Doc. 125 at 15-17; see Doc. 149 \P 200; Doc. 154 \P 200; Doc. 157 \P 281).
- 9. The method of making a "tip" claimed in the Dentsply patent, involving the bending of the shaft before drilling the fluid passageway, was subsequently employed by other companies, including Hu-Friedy, to solve similar

problems. (Doc. 126 at 62-76; Doc. 129, Parker Dep. at 16-18; Doc. 129, Tipton Dep. at 45, 61, 88; Doc. 149 ¶ 200; Doc. 154 ¶ 200)

- 10. The Dentsply patent references and incorporates the Dao patent, which claims a method of making a "tip" for use in an "ultrasonic insert." (Doc. 129, Ex. P-1; Doc. 130, Ex. D-66; Doc. 150 ¶¶ 221, 228; Doc. 157 ¶¶ 221, 228).
- 11. The Dao patent is in the field of endeavor of the Dentsply patent: i.e., the design and manufacture of transducer activated tool tips, including the method of making an insert for an ultrasonically activated subgingival tooth cleaning tool. (Doc. 122 at 102-03; Doc. 127 at 41; Doc. 149 ¶ 155; Doc. 150 ¶¶ 221-22, 228; Doc. 154 ¶ 155; Doc. 157 ¶¶ 221-22, 228; see Doc. 129, Ex. P-1; Doc. 130, Ex. D-66).
- 12. The Dao patent claims a method of making a "tip," consisting of an elongated metal shaft with a tapered end and an internal water delivery system that may be attached to the "connecting body" to permit the transmission of fluid and ultrasonic vibrations from the "magnetostrictive element." (Doc. 130, Ex. D-66; see Doc. 130, Ex. D-58 ¶ 18; Doc. 150 ¶¶ 223-26, 229-34; Doc. 157 ¶¶ 223-26, 229-34).
- 13. The method of making a "tip" claimed in the Dao patent involves drilling a fluid passageway through the shaft to form a fluid-inlet orifice at the non-tapered end and a fluid-outlet orifice at a mid-point and bending the shaft at the mid-point. (Doc. 130, Ex. D-66; see Doc. 130, Ex. D-58 ¶ 18; Doc. 150 ¶¶ 223-26, 229-34; Doc. 157 ¶¶ 223-26, 229-34).
- 14. The method of making a "tip" claimed in the Dao patent, unlike the method of making a "tip" claimed in the Dentsply patent, does not involve a "pre-

bend" of the shaft before drilling the fluid passageway. (Doc. 122 at 102-103; Doc. 127 at 41-42; Doc. 130, Ex. D-66; Doc. 149 ¶ 154; Doc. 150 ¶ 227; Doc. 154 ¶ 154; Doc. 157 ¶ 227).

- 15. The method of making a "tip" claimed in the Dao patent, unlike the method of making a "tip" claimed in the Dentsply patent, results in a decrease in the strength of the tip, increasing the probability of breakage. (Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84).
- 16. The method of making a "tip" claimed in the Dao patent is substantially different than the method of making a "tip" claimed in the Dentsply patent. (Doc. 122 at 101-03; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84).
- 17. The method of making a "tip" claimed in the Dentsply patent represents a significant improvement over the method of making a "tip" claimed in the Dao patent. (Doc. 122 at 101-03; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84).
- 18. The method of making a "tip" claimed in the Dentsply patent is not obvious in light of the method of making a "tip" claimed in the Dao patent. (Doc. 122 at 101-03; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84)
- 19. Neither the Denstply patent nor the Dao patent references or incorporates the Shotts patent, which claims a method of making an "airfoil" with a "curved trailing edge cooling slot" for use in turbo machinery. (Doc. 129, Ex. P-1; Doc. 130, Exs. D-64, D-66).

- 20. The Shotts patent is not in the same field of endeavor of the Dentsply patent: i.e., the design and manufacture of transducer activated tool tips, including the method of making an insert for an ultrasonically activated subgingival tooth cleaning tool. (Doc. 127 at 42-49; see Doc. 129, Ex. P-1; Doc. 130, Ex. D-64).
- 21. The Shotts patent claims a method of making an "airfoil," consisting of a metal piece with an internal cavity and trailing edge and an air flow slot used to cool the metal while in operation. (Doc. 122 at 103-04; Doc. 127 at 42-49; Doc. 130, Ex. D-58 ¶ 19; Doc. 130, Ex. D-64; Doc. 149 ¶ 156; Doc. 154 ¶ 156).
- 22. The method of making an "airfoil" claimed in the Schotts patent involves deflecting the metal piece at the trailing edge, machining an air flow slot from the internal cavity to the trailing edge, and allowing the metal piece to spring back at the centerline or re-forming the metal piece to the proper shape. (Doc. 122 at 103-04; Doc. 127 at 42-49; Doc. 130, Ex. D-58 ¶ 19; Doc. 130, Ex. D-64; Doc. 149 ¶ 156; Doc. 150 ¶ 235; Doc. 154 ¶ 156; Doc. § 157 ¶ 235).
- 23. The method of making an "airfoil" claimed in the Schotts patent, unlike the method of making a "tip" claimed in the Dentsply patent, does not involve an elongated metal shaft with a tapered end. (Doc. 127 at 42-49; Doc. 130, Ex. D-64; Doc. 130, Ex. D-58 ¶ 19; see Doc. 121 at 97; Doc. 125 at 73; Doc. 129, Ex. P-1; Doc. 149 ¶ 15; Doc. 154 ¶ 15; Doc. 157 ¶ 244).
- 24. The method of making an "airfoil" claimed in the Schotts patent, unlike the method of making a "tip" claimed in the Dentsply patent, was not

developed in order to increase strength or avoid breakage. (Doc. 127 at 42-49, 55-57; see Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶ 163; Doc. 150 ¶¶ 255-70; Doc. 154 ¶ 163; Doc. 157 ¶¶ 255-70).

- 25. The method of making a "tip" claimed in the Dentsply patent is substantially different than the method of making an "airfoil" claimed in the Schotts patent. (Doc. 125 at 15-17; Doc. 127 at 42-49, 55-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-64; Doc. 130, Copeland Dep. at 83-84).
- 26. The method of making a "tip" claimed in the Dentsply patent addresses a different problem than the one addressed in the method of making an "airfoil" claimed in the Schotts patent. (Doc. 125 at 15-17; Doc. 127 at 14-21, 40-49, 55-57; Doc. 130, Copeland Dep. at 83-84; Doc. 150 ¶¶ 255-70; Doc. 157 ¶¶ 255-70).
- 27. The method of making an "airfoil" claimed in the Schotts patent is not analogous prior art with respect to the Dentsply patent. (Doc. 125 at 15-17; Doc. 127 at 14-21, 40-49, 55-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-64; Doc. 130, Copeland Dep. at 83-84; see Doc. 149 ¶¶ 181-86; Doc. 154 ¶¶ 181-86; Doc. 157 ¶ 270).
- 28. The method of making a "tip" claimed in the Dentsply patent is not obvious in light of the method of making an "airfoil" claimed in the Schotts patent. (Doc. 125 at 15-17; Doc. 127 at 14-21, 40-49, 55-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-64; Doc. 130, Copeland Dep. at 83-84; see Doc. 149 ¶¶ 181-86; Doc. 154 ¶¶ 181-86; Doc. 157 ¶ 270).

- 29. Neither the Denstply patent nor the Dao patent references or incorporates the Stecher patent, which claims a method of making a "fitting" for use in hydraulic brake systems. (Doc. 129, Ex. P-1; Doc. 130, Exs. D-65, D-66).
- 30. The Stecher patent is not in the field of endeavor of the Dentsply patent: i.e., the design and manufacture of transducer activated tool tips, including the method of making an insert for an ultrasonically activated subgingival tooth cleaning tool. (Doc. 127 at 49-50; Doc. 149 ¶¶ 167-71; Doc. 154 ¶¶ 167-71; see Doc. 129, Ex. P-1; Doc. 130, Ex. D-65).
- 31. The Stecher patent claims a method of making a "fitting," consisting of a metal shaft with internal cavities at the end portions and a fluid passageway connecting the cavities to transmit fluid used in hydraulic brake systems. (Doc. 122 at 108-20; Doc. 127 at 49-57; Doc. 130, Ex. D-65; Doc. 130, Ex. D-58 ¶ 20).
- 32. The method of making a "fitting" claimed in the Stecher patent involves bending the shaft at one end, drilling a fluid passageway through the shaft between the internal cavities, and bending the shaft a second time to eliminate the angle and achieve a single centerline. (Doc. 122 at 108-20; Doc. 127 at 49-57; Doc. 130, Ex. D-65; Doc. 130, Ex. D-58 ¶ 20; Doc. 150 ¶¶ 246-48, 250; Doc. 157 ¶¶ 246-48, 250).
- 33. The method of making a "fitting" claimed in the Stecher patent, unlike the method of making a "tip" claimed in the Dentsply patent, does not involve the bending of the shaft to form a bend at an opposing angle from the centerline. (Doc. 122 at 108-20; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Ex. D-65; see Doc. 121 at 97; Doc. 125

at 73; Doc. 129, Ex. P-1; Doc. 149 ¶ 15; Doc. 150 ¶¶ 253-54; Doc. 154 ¶ 15; Doc. 157 ¶¶ 253-54).

- 34. The method of making a "fitting" claimed in the Stecher patent, unlike the method of making a "tip" claimed in the Dentsply patent, does not involve an elongated metal shaft with a tapered end. (Doc. 122 at 108-20; Doc. 127 at 49-57; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Ex. D-65; see Doc. 121 at 97; Doc. 125 at 73; Doc. 129, Ex. P-1; Doc. 149 ¶ 15; Doc. 154 ¶ 15; Doc. 157 ¶ 254).
- 35. The method of making a "fitting" claimed in the Stecher patent, unlike the method of making a "tip" claimed in the Dentsply patent, was not developed in order to increase strength or avoid breakage. (Doc. 127 at 49-57; Doc. 130, Ex. D-65; see Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶ 163; Doc. 150 ¶¶ 255-70; Doc. 154 ¶ 163; Doc. 157 ¶¶ 255-70).
- 36. The method of making a "tip" claimed in the Dentsply patent is substantially different than the method of making a "fitting" claimed in the Stecher patent. (Doc. 121 at 97; Doc. 122 at 108-20; Doc. 125 at 73; Doc. 127 at 49-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Ex. D-65; Doc. 149 ¶ 15; Doc. 154 ¶ 15).
- 37. The method of making a "tip" claimed in the Dentsply patent addresses a different problem than the one addressed in the method of making a "fitting" claimed in the Stecher patent. (Doc. 127 at 14-21, 40, 49-57; Doc. 130, Ex. D-65; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶ 163; Doc. 150 ¶¶ 255-70; Doc. 154 ¶ 163; Doc. 157 ¶¶ 255-70).

- 38. The method of making a "fitting" claimed in the Stecher patent is not analogous prior art with respect to the Dentsply patent. (Doc. 121 at 97; Doc. 122 at 108-20; Doc. 125 at 15-17, 73; Doc. 127 at 14-21, 40, 49-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Ex. D-65; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶¶ 15, 163; Doc. 154 ¶ 15, 163; See Doc. 149 ¶¶ 181-86; Doc. 154 ¶¶ 181-86; Doc. 157 ¶ 270).
- 39. The method of making a "tip" claimed in the Dentsply patent is not obvious in light of the method of making a "fitting" claimed in the Stecher patent. (Doc. 121 at 97; Doc. 122 at 108-20; Doc. 125 at 15-17, 73; Doc. 127 at 14-21, 49-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Ex. D-65; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶¶ 15, 163; Doc. 154 ¶¶ 15, 163; see Doc. 149 ¶¶ 181-86; Doc. 154 ¶¶ 181-86; Doc. 157 ¶ 270).
- 40. Neither the Dao patent, the Schotts patent, nor the Stecher patent includes a suggestion or motivation to modify or combine the methods claimed in those patents to achieve the method of making a "tip" claimed in the Dentsply patent. (Doc. 121 at 40-43, 97; Doc. 122 at 101-03, 108-20; Doc. 125 at 15-17, 73; Doc. 127 at 14-21, 40, 42-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Exs. D-64, D-65, D-66; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130, Copeland Dep. at 83-84; Doc. 149 ¶¶ 15, 163, 196-97; Doc. 154 ¶¶ 15, 163, 196-97; Doc. 157 ¶¶ 270, 295).
- 41. The method of making a "tip" claimed in the Dentsply patent is not obvious in light of prior art. (Doc. 121 at 40-43, 97; Doc. 122 at 101-03, 108-20; Doc. 125 at 15-17, 73; Doc. 127 at 14-21, 42-57; Doc. 129, Ex. P-1; Doc. 130, Ex. D-58 ¶ 20; Doc. 130, Exs. D-64, D-65, D-66; Doc. 125 at 15-17; Doc. 129, Ex. P-1; Doc. 130,

Copeland Dep. at 83-84; Doc. 149 ¶¶ 15, 163, 196-97; Doc. 154 ¶¶ 15, 163, 196-97; Doc. 157 ¶¶ 270, 295).

II. <u>Discussion</u>

A claim of invalidity under 35 U.S.C. § 103(a) requires the challenging party to prove, by clear and convincing evidence, that the patented design is "obvious" in light of relevant prior art, when viewed from the perspective of a "person having ordinary skill in the art." Id. §§ 103(a), 282; see also State Contracting & Eng'g Corp. v. Condotte Am., Inc., 346 F.3d 1057, 1069 (Fed. Cir. 2003). Whether a patent is "obvious" depends on a weighing of several factors. These include "(1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations . . . of nonobviousness," such as "commercial success of the invention, satisfying a long-felt need, failure of others to find a solution to the problem at hand, and copying of the invention by others." B.F. Goodrich Co. v. Aircraft Braking Systems Corp., 72 F.3d 1577, 1582 (Fed. Cir. 1996) (quoting Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050 (Fed. Cir. 1988)); see also Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966).

Applied in this case, these factors demonstrate that the Dentsply patent is not "obvious" in light of prior art. Of the three patents cited by Hu-Friedy as relevant prior art, only one—the Dao patent—is within the same field of endeavor of the Denstply patent. The others—the Shotts and Stecher patents—involve fields not even remotely related to the manufacture of dental instruments and do not

address the problem that the Denstply patent was developed to solve: production of a "tip" with increased strength and reduced probability of breakage. These designs would not logically commend themselves to a person of ordinary skill in the relevant art.³ The Denstply patent represents a substantial innovation over prior analogous art and, thus, cannot be deemed obvious in light thereof. See, e.g., B.F. Goodrich, 72 F.3d at 1582.

Secondary considerations bolster this conclusion. The Dentsply patent was developed in response to complaints by customers over breakage of tips manufactured by the company. Despite the availability of the Dao, Shotts, and Stecher patents, issued respectively in 1998, 1978, and 1938, no solution to the problem was reached until 2000, when the application for the Dentsply patent was filed. Implementation of the new design resulted in a significant decrease in customer complaints and represented a successful venture for Dentsply. Similar methods were subsequently employed by other manufacturers, including Hu-Friedy. These facts suggest that the method of making a "tip" claimed in the Dentsply patent was not obvious in light of prior art. See, e.g., id.

Hu-Friedy has failed to carry its burden of demonstrating the invalidity of the Dentsply patent by "clear and convincing evidence." <u>See</u> 35 U.S.C. § 282. The testimony and documents introduced at trial do not establish that a "person of

 $^{^3}$ See State Contracting, 346 F.3d at 1069 ("[A] prior art reference is analogous . . . if it is from the same field of endeavor as the invention [or] . . . if the reference 'is reasonably pertinent to the particular problem with which the inventor is involved.'") (quoting In re Clay, 966 F.2d 656, 658 (Fed. Cir. 1992)).

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ordinary skill in the art" would have been motivated to review and combine the

teachings of the Dao, Schotts, and Stecher patents to achieve the design of the

Denstply patent. See, e.g., Golight, Inc. v. Wal-Mart Stores, Inc., 355 F.3d 1327 (Fed.

Cir. 2004) ("[L]ack of evidence of a motivation to combine is a critical defect in [a

claim of obviousness "). Accordingly, judgment on the counterclaim of

invalidity will be entered in favor of Dentsply.

III. Conclusions of Law

1. Defendant has failed to prove by clear and convincing evidence the

elements necessary to succeed on a claim of patent invalidity.

2. Defendant has failed to prove by clear and convincing evidence that

the method claimed in United States Patent No. 6,494,714 is obvious in light of

prior art, including U.S. Patent No. 5,749,727, U.S. Patent No. 4,128,928, and U.S.

Patent No. 2,119,448, when viewed from the perspective of a person having

ordinary skill in the art.

3. Judgment should be entered against defendant and in favor of

plaintiff on defendant's counterclaim of invalidity.

An appropriate order will issue.

S/ Christopher C. Conner CHRISTOPHER C. CONNER

United States District Judge

Dated:

August 23, 2005

IN THE UNITED STATES DISTRICT COURT FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

DENTSPLY INTERNATIONAL INC. : CIVIL ACTION NO. 1:04-CV-0348

and DENTSPLY RESEARCH &

DEVELOPMENT CORP., : (Judge Conner)

Plaintiffs :

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v.

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HU-FRIEDY MFG. CO., INC.,

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Defendant

ORDER

AND NOW, this 23rd day of August, 2005, upon consideration of the pleadings (Docs. 19, 92), and following a bench trial, and for the reasons set forth in the accompanying memorandum, and the memorandum and order dated August 2, 2005, it is hereby ORDERED that:

- 1. Judgment is GRANTED in favor of plaintiff and against defendant on defendant's counterclaim of patent invalidity.
- 2. The Clerk of Court is directed to enter JUDGMENT as follows:
 - a. In favor of defendant and against plaintiff on plaintiff's claim of patent infringement.
 - b. In favor of plaintiff and against defendant on defendant's counterclaim of patent invalidity.
- 3. Plaintiff's motion for a ruling on defendant's counterclaim of patent invalidity (Doc. 161) is DENIED as moot.
- 4. The Clerk of Court is directed to CLOSE the above-captioned case.

S/ Christopher C. Conner
CHRISTOPHER C. CONNER
United States District Judge